

AN IMPORTANT PASSERINE RINGING SITE NEAR THE SUDAN RED SEA COAST

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During continued ringing studies of Palaearctic migrant birds in the Sudan Red Sea coast Province during autumn 1982, a new and important site was discovered at Khor Arba'at (19.48°N, 37.03°E at an altitude of 100 m above sea level), some 15 km inland and immediately to the east of the Red Sea Hills. A water pumping station supplies the town of Port Sudan 25 km to the southeast from wells located on an island in a normally dry 500 m wide river bed. A small watered garden (50 x 15 m) on the island, with lemon and guava trees and date palms, provides the only concentrated green vegetation for many kilometres around during August and September. Except for a few scattered bushes along the *khor*, vegetation in the surrounding desert is quite leafless.

Three periods were spent netting migrants at Khor Arba'at during 1982, from 19-25 August, 3-10 September and 2-14 October. Over 4000 Palaearctic passerines were ringed at the site in all, and during the peak migration period in early September more than 1000 migrants were present daily in the garden. Nets (usually 6 x 12 m plus 6 x 6 m) were in position from dawn to 13:00 during the August and September periods and from dawn to dusk during October. They were checked frequently, for the average daily maximum shade temperature was 43°C during August and early September and 37°C in October.

Numbers of Palaearctic birds caught and ringed during the three periods are listed in Table 1. The Khor Arba'at 'oasis' site appears to have a potential for the ringing of passerine migrants similar to that of the Ngulia Lodge 'lighthouse' site in Kenya (Pearson & Backhurst 1976, Backhurst & Pearson 1977), situated some 2540 km almost due south in Africa. A comparison of migration at these two sites is of interest. Timing is very different: the main passerine passage on the Red Sea coast appears to occur during late August-September (see also Nikolaus & Pearson 1982), whereas that in eastern Kenya is about three months later, during November-December. There are marked similarities in species composition. Thus, at Ngulia the Marsh Warbler¹, the Whitethroat and the Sprosser are the three main species involved, accounting between them for over 80 per cent of each season's ringing total. During peak migration the Marsh Warbler (36 per cent) was also easily the most frequently caught migrant at Khor Arba'at. Whitethroat (7 per cent) and Sprosser (7 per cent) were again second and third in order of predominance, but formed more minor components than they do at Ngulia. Almost the entire migration of the Marsh Warbler and the Sprosser into southern Africa appears to pass through central and eastern Kenya (Pearson & Backhurst 1976). Many of the birds involved presumably enter Africa across the Sudan Red Sea coast. The same may well apply in the case of the River Warbler, which accounted for 2 per cent of the Khor Arba'at August-September catch. This species has only rarely been recorded in well-worked areas of central Ethiopia (Ash 1973, 1977) and is found regularly on passage further south only in inland eastern Kenya. The case of the Whitethroat appears to be different. The high incidence at Khor Arba'at of adults with partially moulted primaries indicated that the population was not the same as that which crosses Ngulia.

The main differences in the species composition of the Khor Arba'at and Ngulia movements may also be discussed. In general a wider variety of passerines was represented at the former site. Many of the species caught

¹Scientific names are given in Table 1

TABLE 1

Numbers of Palaearctic migrants caught and ringed
at Khor Arba'at in autumn 1982

Species	19-25/8		2-10/9		2-14/10		Total	
	No.	%	No.	%	No.	%	No.	%
1 Squacco Heron <i>Ardeola ralloides</i>	0		2		0		2	
2 Quail <i>Coturnix coturnix</i>	0		0		3		3	
3 Corncrake <i>Crex crex</i>	0		1		0		1	
4 Common Moorhen <i>Gallinula chloropus</i>	0		1		*		1	
5 Little Crake <i>Porzana parva</i>	0		0		1		1	
6 Turtle Dove <i>Streptopelia turtur</i>	0		1		5		6	
7 Eurasian Cuckoo <i>Cuculus canorus</i>	*		10		0		10	
8 Scops Owl <i>Otus scops</i>	0		1		0		1	
9 Eurasian Bee-eater <i>Merops apiaster</i>	*		1		*		1	
10 Blue-cheeked Bee-eater <i>M. persicus</i>	0		1		*		1	
11 Hoopoe <i>Upupa epops</i>	10	1	5		2		17	
12 Eurasian Wryneck <i>Jynx torquilla</i>	0		3		1		4	
13 Eurasian Swallow <i>Hirundo rustica</i>	*		3		9	2	12	
14 Sand Martin <i>Riparia riparia</i>	0		*		1		1	
15 Golden Oriole <i>Oriolus oriolus</i>	1		62	2	9	2	72	2
16 Rufous Bush Chat <i>Cercotrichas galactotes</i>	9	1	1		0		10	
17 Sprosser <i>Luscinia luscinia</i>	73	7	195	8	34	6	302	7
18 Nightingale <i>L. megarhynchos</i>	3		22	1	0		25	1
19 Bluethroat <i>L. svecica</i>	0		4		1		5	
20 Black-eared Wheatear <i>Oenanthe hispanica</i>	0		0		1		1	
21 Northern Wheatear <i>O. oenanthe</i>	0		1		0		1	
22 Redstart <i>Phoenicurus p. phoenicurus</i>	0		0		19	3	19	
22a White-winged Redstart <i>P. p. samamensis</i>	0		21	1	1		22	1
23 Whinchat <i>Saxicola rubetra</i>	0		2		4	1	6	
24 Stonechat <i>S. torquata</i>	0		1		0		1	
25 Great Reed Warbler <i>Acrocephalus arundinaceus</i>	23	2	51	2	10	2	84	2
26 Basra Reed Warbler <i>A. griseldis</i>	2		4		3		9	
27 Marsh Warbler <i>A. palustris</i>	665	62	794	31	67	11	1526	36
28 Sedge Warbler <i>A. schoenobaenus</i>	3		3		1		7	
29 Reed Warbler <i>A. scirpaceus</i>	39	4	165	7	125	21	329	8
30 Icterine Warbler <i>Hippolais icterina</i>	8	1	5		0		13	
31 Olivaceous Warbler <i>H. pallida</i>	63	6	24	3	2		139	3
32 River Warbler <i>Locustella fluviatilis</i>	23	3	35	1	11	2	69	2
33 Savi's Warbler <i>L. luscinoides</i>	1		4		9	2	14	
34 Bonelli's Warbler <i>Phylloscopus bonelli</i>	1		0		0		1	
35 Wood Warbler <i>P. sibilatrix</i>	0		1		0		1	
36 Willow Warbler <i>P. trochilus</i>	12	1	236	9	7	1	255	6
37 Blackcap <i>Sylvia atricapilla</i>	0		9		115	19	124	3
38 Garden Warbler <i>S. borin</i>	18	2	172	7	28	5	218	5
39 Whitethroat <i>S. communis</i>	45	4	224	9	8	1	277	7
40 Lesser Whitethroat <i>S. curruca</i>	0		20	1	3		23	1
41 Orphean Warbler <i>S. hortensis</i>	7	1	5		0		12	
42 Barred Warbler <i>S. nisoria</i>	14	1	36	1	2		52	1
43 Collared Flycatcher <i>Ficedula albicollis</i> ¹	0		0		1		1	
44 Spotted Flycatcher <i>Muscicapa striata</i>	12	1	107	4	8	1	127	3
45 Red-throated Pipit <i>Anthus cervinus</i>	0		0		3		3	
46 Tree Pipit <i>A. trivialis</i>	0		5		13	2	18	

Table 1, cont.

Species	19-25/8		2-10/9		2-14/10		Total	
	No.	%	No.	%	No.	%	No.	%
47 Grey Wagtail <i>Motacilla cinerea</i>	*		2		0		2	
48 Yellow Wagtail <i>M. flava</i>	0		3		12	2	15	
49 Red-backed Shrike <i>Lanius collurio</i>	28	3	133	5	42	7	203	5
50 Great Grey Shrike <i>L. excubitor</i>	0		2		*		2	
51 Red-tailed <i>L. isabellinus</i>	0		6		3		9	
52 Lesser Grey Shrike <i>L. minor</i>	8	1	23	1	1		32	1
53 Nubian Shrike <i>L. nubicus</i>	9	1	46	2	13	2	68	2
54 Woodchat Shrike <i>L. senator</i>	0		9		1		10	
55 Pale Rock Sparrow <i>Petronia brachydactyla</i>	0		1		*		1	
56 Cretzschmar's Bunting <i>Emberiza caesia</i>	0		*		8		8	
57 Cinereous Bunting <i>E. cineracea</i>	0		1		0		1	
58 Ortolan Bunting <i>E. hortulana</i>	0		9		16	3	25	1
Totals	1077		2523		603		4203	

¹ race *semitorquata*, the Half-collared Flycatcher *seen but not caught

frequently at Khor Arb'at winter in Ethiopia and the Sudan, but do not penetrate, at least in any numbers, south to Kenya. These include, for example, the Redstart, the Bluethroat, the Lesser Whitethroat, the Orphean Warbler, the Savi's Warbler, the Nubian and Woodchat Shrikes and the Ortolan Bunting. Five other species common at Khor Arba'at but scarce or absent at Ngulia are in a different category for they do reach southern Africa. These are the Great Reed Warbler, the Lesser Grey Shrike, the Golden Oriole, the Reed Warbler and the Blackcap. Of these, the first three winter mainly in the southern tropics. Their absence or relative scarcity on southward passage in East Africa suggests that their southward route from the Red Sea coast passes through south or southwest Sudan and eastern Zaire. The Reed Warbler was particularly common at Khor Arba'at in October. Again, there is no marked passage of this species through eastern Kenya (Pearson 1982), and the Red Sea birds were probably bound for wintering areas to the southwest, in southern Sudan, Uganda and Zaire. Blackcaps were common at Khor Arba'at; indeed, many more would have been caught in October but for their habit of remaining at the tops of the small fruit trees. The absence of this species at Ngulia perhaps implies that movement into highland wintering areas further south occurs further west.

A few migrants, common at Ngulia, were notable for their absence or low numbers at Khor Arba'at. Thus, the Irania *Irania gutturalis* has not yet been recorded in the Sudan, and presumably enters Africa entirely through Ethiopia and perhaps northern Somalia. The few Rufous Bush Chats caught at Khor Arba'at were of the nominate race; the eastern race *familiaris* was not encountered. The few Red-tailed Shrikes racially assignable were *L. i. speculigerus*; the race *phoenicuroides*, very common in Kenya, probably migrates through the horn of Africa. Finally, Olive-tree and Upcher's Warblers *Hippolais olivetorum* and *H. languida* are regular at Ngulia, presumably arriving via Ethiopia and northern Somalia; neither of these species was caught at Khor Arba'at.

Further work at Khor Arba'at is planned. A consolidated account of autumn migration here and elsewhere on the Sudan Red Sea coast is to be prepared.

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